



EPA Region 7 TMDL Review

<i>TMDL ID</i>	192	<i>Water Body ID</i>	Lake
<i>Water Body Name</i>	West Lake (Osceola)		
<i>Pollutant</i>	Atrazine		
<i>Tributary</i>			
<i>State</i>	IA	<i>HUC</i>	1000080902
<i>Basin</i>	Des Moines River - South River Basin		
<i>Submittal Date</i>	8/19/2002		
<i>Approved</i>	Yes		

Submittal Letter

State submittal letter indicates final TMDL(s) for specific pollutant(s)/ water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act.

Submittal letter dated August 13, 2002.

Water Quality Standards Attainment

The water body's loading capacity for the applicable pollutant is identified and the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources is described. TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.

West Lake (Osceola) was listed as partially supporting its drinking water uses due to the Water Quality Standard for Atrazine which is set at 3 micrograms per liter (ug/L). The atrazine criterion will be achieved through a phased approach which includes the establishment of a zero atrazine load allocation for a two year period, followed by establishment of load allocations based on verifiable antecedent lake atrazine concentrations.

Numeric Target(s)

Submittal describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, site specific if possible, was developed from a narrative criterion and a description of the process used to derive the target is included in the submittal.

The numeric target is the WQS criterion: 3 ug/L of atrazine which will enable West Lake (Osceola) to meet requirements of a fully supporting Drinking Water Use designation.

Link Between Numeric Target(s) and Pollutant(s) of concern

An explanation and analytical basis for expressing the TMDL through surrogate measures (e.g., parameters such as percent fines and turbidity for sediment impairments, or chlorophyll-a and phosphorus loadings for excess algae) is provided, if applicable. For each identified pollutant, the submittal describes analytical basis for conclusions, allocations and margin of safety that do not exceed the load capacity.

The target is the WQS.

Source Analysis

Important assumptions made in developing the TMDL, such as assumed distribution of land use in the watershed, population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources, are described. Point, non point and background sources of pollutants of concern are described, including magnitude and location of the sources. Submittal demonstrates all significant sources have been considered.

The source of atrazine is of non-point source origin. The main source of atrazine in this watershed is due to overland runoff from agricultural application sites. Tile drainage discharge is also a transport mechanism in which atrazine is carried to the lake. This watershed is 56% cropland.

Allocation

Submittal identifies appropriate wasteload allocations for point, and load allocations for nonpoint sources. If no point sources are present the wasteload allocation is zero. If no nonpoint sources are present, the load allocation is zero.

Reductions of in-lake atrazine concentrations are expected through a phased approach which includes a zero load phase and a controlled allocation phase based on in lake antecedent concentrations.

WLA Comment

The WLA is zero.

LA Comment

The LA for phase I is set at zero for the period of January 2003 through December 2004. For phase II, load allocations will be based on verifiable antecedent lake atrazine concentrations and will range from a low of 0 ug/L, to a maximum allowable concentration of 2.6 ug/L. The load capacity of the lake is also calculated by the use of the antecedent atrazine concentration.

Margin of Safety

Submittal describes explicit and/or implicit margin of safety for each pollutant. If the MOS is implicit, the conservative assumptions in the analysis for the MOS are described. If the MOS is explicit, the loadings set aside for the MOS are identified and a rationale for selecting the value for the MOS is provided.

The phase I allocation is zero, therefore the MOS is implicit based on zero loading during this period. For phase II, the MOS is explicitly stated as being 0.4 ug/L of atrazine.

Seasonal Variation and Critical Conditions

Submittal describes the method for accounting for seasonal variation and critical conditions in the TMDL(s).

Atrazine applications in the watershed are predominantly applied to the corn crop in the months of May and June when the probability of rain is high. Following rainfall events throughout the application period atrazine concentrations in the lake increase, leveling out through July and August and then declining by dilution, degradation and lake outflow.

Public Participation

Submittal describes public notice and public comment opportunity, and explains how the public comments were considered in the final TMDL(s).

Public meetings regarding the procedure and timetable for developing the West Lake (Osceola) pesticide TMDL were held January 14, 2002 in Des Moines, and on January 29, 2002 in Osceola. A followup meeting was held June 4, 2002 in Osceola to discuss the draft document. The public comment period for this TMDL was from May 31, 2002 to July 1, 2002. This TMDL is posted on IDNR's website at "http://www.state.ia.us/dnr/organiza/epd/wtresrce/files/tmdl_dev.htm".

Monitoring Plan for TMDL(s) Under Phased Approach

The TMDL identifies the monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of WQS, and a schedule for considering revisions to the TMDL(s) (where phased approach is used).

Samples for atrazine have been taken bimonthly since May, 1994 with weekly sampling implemented in the May through July period. This data is submitted annually to IDNR as part of the voluntary monitoring program coordinated through Syngenta CPI and EPA. Syngenta will continue to monitor this lake throughout the life of this TMDL.

Reasonable assurance

Reasonable assurance only applies when reduction in nonpoint source loading is required to meet the prescribed waste load allocations.

Reasonable assurances are not required in the TMDL because there are no point sources contributing to the impairment in the watershed.